

FIG. 1
PRIOR ART

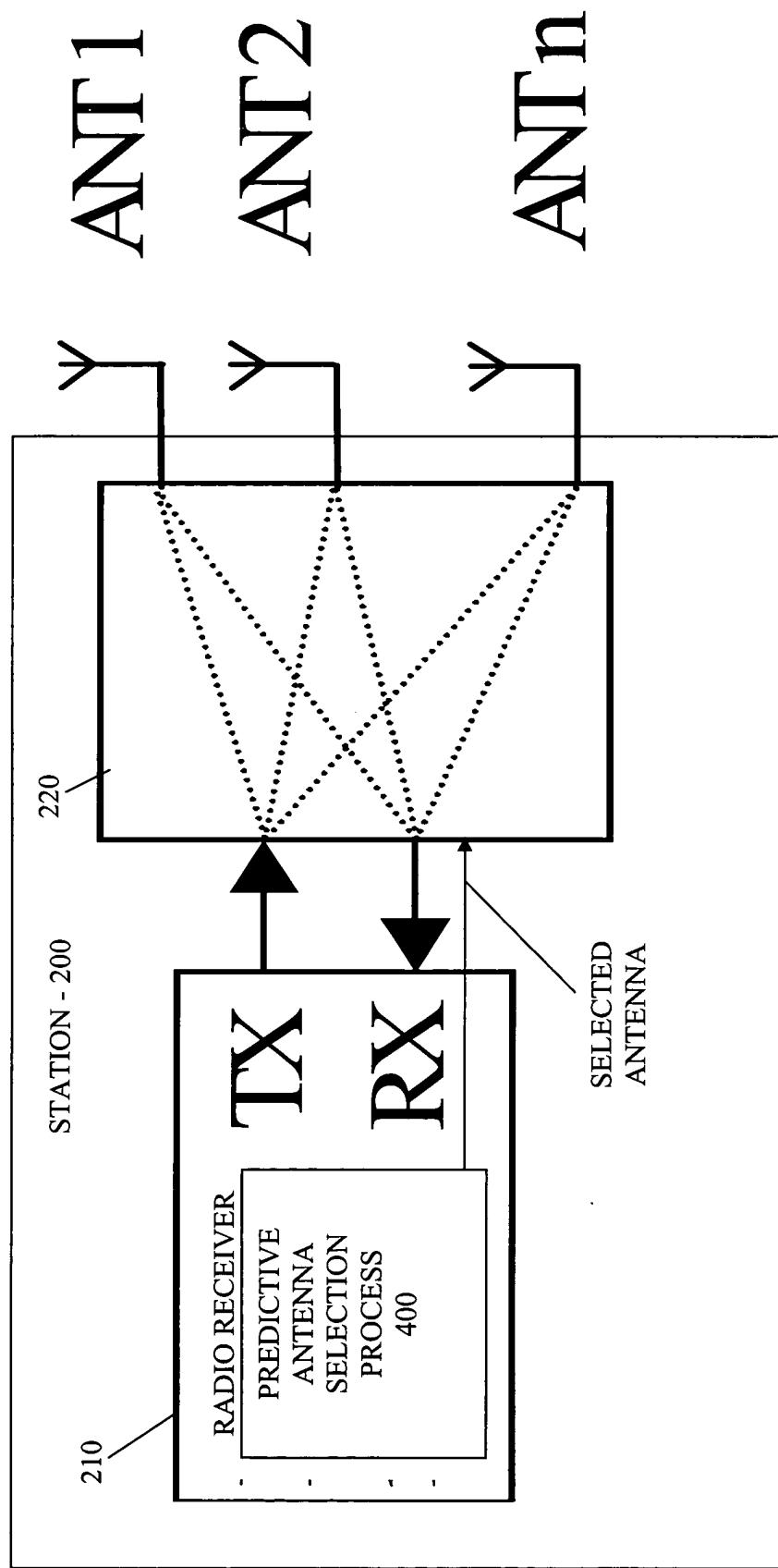


FIG. 2

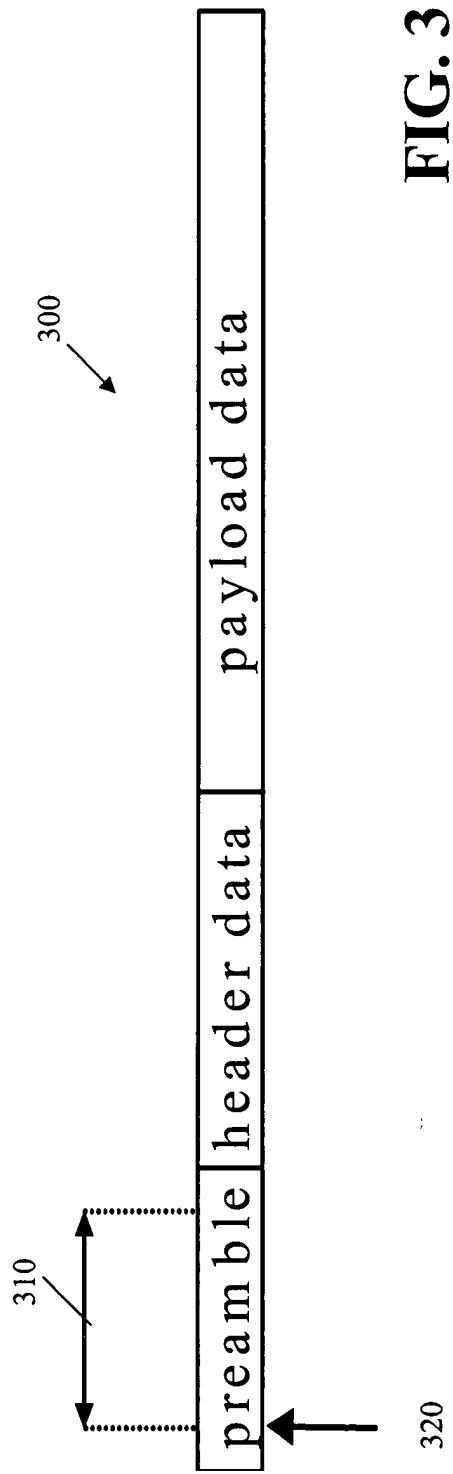


FIG. 3

FIG. 4

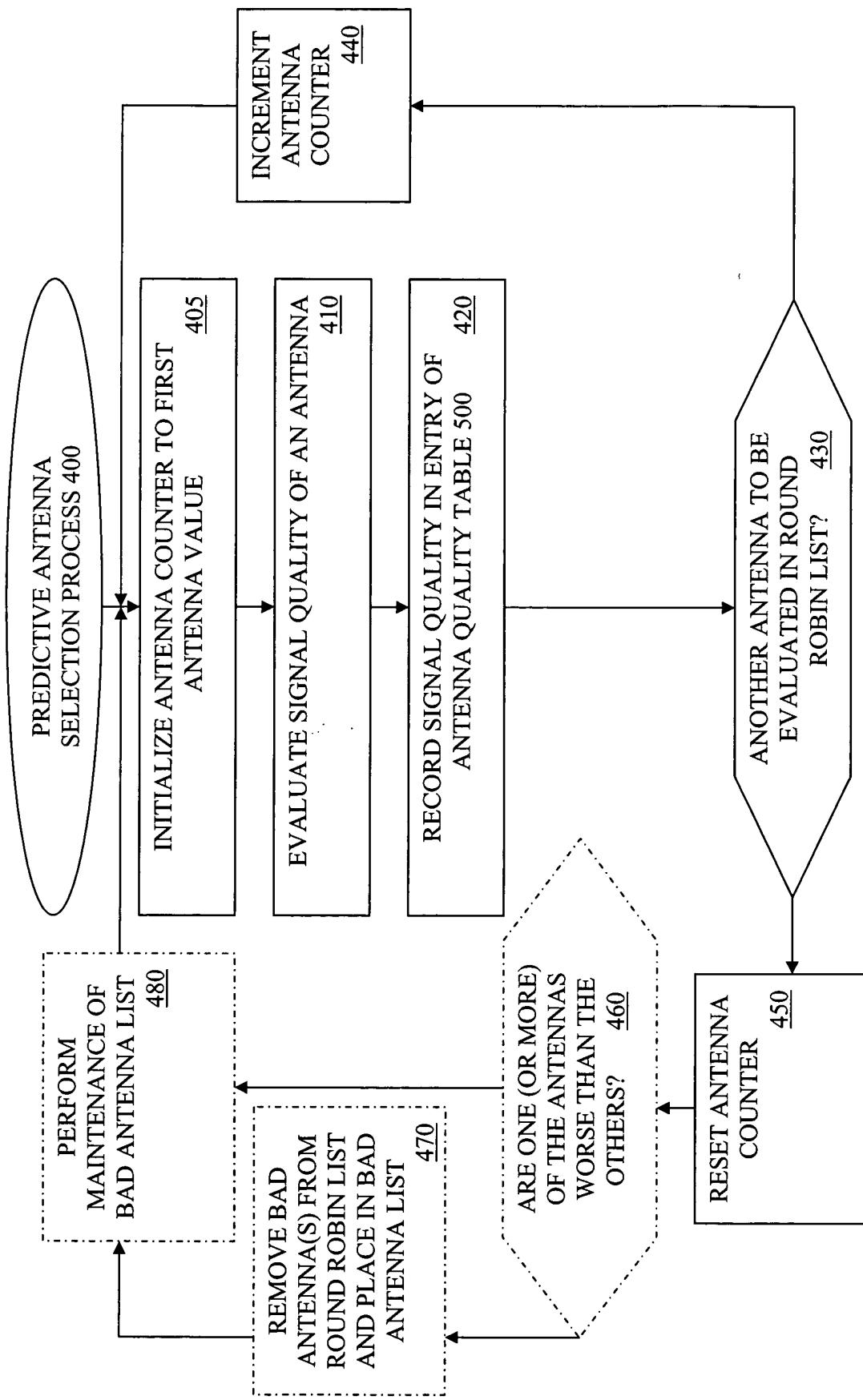
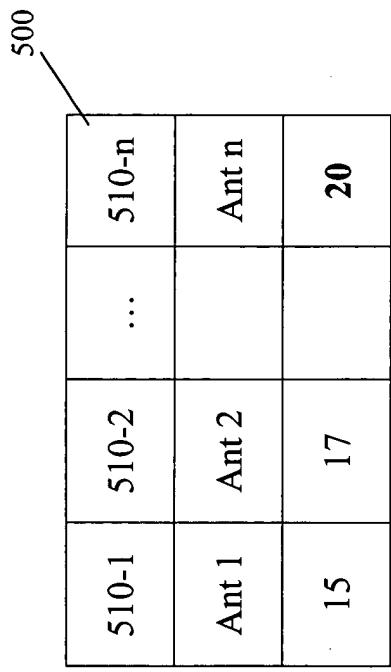


FIG. 5



A diagram showing a matrix structure. The top row is labeled '510-1', '510-2', '...', and '510-n'. The leftmost column is labeled 'Ant 1', 'Ant 2', and 'Ant n'. The matrix contains the following data:

510-1	510-2	...	510-n
Ant 1	Ant 2		Ant n
15	17		20

```

// initialize variables
function Initialize () {
    list_of_good_antennas = 1..number_of_antennas;
    list_of_bad_antennas = empty;
    nr_good_receptions = 0;
    bad_reception = false;
    rx_antenna = first one in list_of_good_antennas;
    configure_receiver_antenna (rx_antenna);
    initialize_Antenna_Quality_list;
}

// a frame has been received from the central node on antenna x, with a certain
// signal quality
function FrameReceived (Antenna x, SignalQuality sq) {
    update value that belongs to antenna x in Antenna_Quality list with new data sq

    // select the next good antenna from the list of good antennas, EXCEPT that
    once
        // every 'max_good_receptions' one of the bad antennas is selected to refresh
        its sq value
        if nr_good_receptions = max_good_receptions then
            nr_good_receptions = 0;
            if list_of_bad_antennas is empty then
                // no bad antennas to
                measure
                let rx_antenna = next one in list_of_good_antennas;
                increment nr_good_receptions;
            else
                let rx_antenna = next one in list_of_bad_antennas;
        fi
}

```

FIG. 6A

FIG. 6B

```
else
    let rx_antenna = next one in list_of_good_antennas;
    increment nr_good_receptions;

fi
configure_receiver_antenna (rx_antenna);

// put bad antennas in the 'bad' list, and put good antennas in the 'good' list
if antenna x in list_of_good_antennas AND
it is worse by (margin + hysteresis) than any other antenna in the Antenna
Quality list then
    remove antenna x from list_of_good_antennas;
    insert antenna x into list_of_bad_antennas;
else if antenna x in list_of_bad_antennas AND
it is not worse by (margin - hysteresis) than any other antenna in the Antenna
Quality list then
    remove antenna x from list_of_bad_antennas;
    insert antenna x into list_of_good_antennas;
fi

}

// a frame is to be transmitted to node B
function TransmitFrame (frame) {
    let tx_antenna = the antenna in the Antenna Quality list with the highest
    signal quality;
    configure_transmitter_antenna (tx_antenna);
    transmit (frame);
}
```